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EXAMINER

GYORFI, THOMAS A

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSH N. HOGAN

Appeal 2008-005209
Application 09/783,112
Technology Center 2400

Decided: August 26, 2009

Before HOWARD B. BLANKENSHIP, ST. JOHN COURTENAY III, and
JAMES R. HUGHES, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 26-28. Claims 1-25 have been canceled.¹ We have jurisdiction under 35 U.S.C. § 6(b) (2002).

We affirm.

Appellant's Invention

Appellant invented a data transmission system for providing XOR encryption of error code correction (ECC) encoded data such as DVD (digital video disk) and CD (compact disk) data. (Spec. 4, l. 24 to 5, l. 17.)²

Claim

Independent claim 28 further illustrates the invention. It reads as follows:

28. A data controller comprising a processor for performing a bitwise XOR of an encryption mask and a block of ECC-encoded data, a product of the bitwise XOR being an encrypted block.

References

The Examiner relies on the following references as evidence of unpatentability:

¹ We refer to Appellant's Supplemental Response filed January 3, 2008.

² We refer to Appellant's Specification ("Spec.") and Appeal Brief ("App. Br.") filed August 17, 2007. We also refer to the Examiner's Answer ("Ans.") mailed November 16, 2007.

Koford	US 4,377,862	Mar. 22, 1983
Hibi	US 4,527,273	Jul. 2, 1985

Rejections

The Examiner rejects claim 28 under 35 U.S.C. § 102(b) as anticipated by Koford.³

The Examiner rejects claims 26 and 27 under 35 U.S.C. § 103(a) as unpatentable over Koford and Hibi.

Appellant's Contentions

Appellant contends that the Examiner improperly rejected the claims. Specifically, Appellant contends that claim 28 is not anticipated by Koford because Koford does not disclose, teach, or suggest “encryption of ECC blocks,” using XOR encryption. (App. Br. 6.) Appellant also contends that the Examiner failed to establish a proper *prima facie* case of obviousness for claims 26 and 27 because the Koford and Hibi references “do not teach or suggest a bitwise XOR of an encryption mask and a block of ECC-encoded data,” and thus, “do not produce a system having all of the limitations of claim 26 or a drive having all of the limitations of claim 27.” (App. Br. 7.)

³ Appellant incorrectly asserts the ground of rejection as anticipation under 35 U.S.C. § 102(a), instead of 35 U.S.C. § 102(b). (App. Br. 4.) This error does not affect our analysis and will, therefore, be ignored.

Examiner's Findings and Conclusions

The Examiner found that Koford discloses each feature of Appellant's claim 28. (Ans. 3, 5-8.) In particular, the Examiner found that Koford discloses performing a XOR encryption (bitwise XOR encryption) of an encryption mask (secret key) and a block of data. (Ans. 3, 5.) Koford also discloses transmitting blocks of ECC-encoded data. (Ans. 3, 6.) Koford does not disclose XOR encryption of ECC-encoded data. The recitation of "ECC-encoded" data, however, does not structurally or functionally distinguish the claimed invention over the described prior art. (Ans. 6-8.) The Examiner also found that Koford and Hibi teach each feature of Appellant's claims 26 and 27. (Ans. 3-5, 9.) The Examiner provided a rationale for the reference combinations as required by 35 U.S.C. § 103(a), and determined that it would have been obvious for one of skill in the art to combine the references. (Ans. 4, 5.)

ISSUES

Based on Appellant's contentions, as well as the findings and conclusions of the Examiner, the issue before us is as follows.

Did Appellant establish the Examiner erred in determining Koford discloses each feature of Appellant's invention, in particular, a bitwise XOR of an encryption mask and a block of ECC-encoded data?

FINDINGS OF FACT (FF)

We find that the following enumerated findings are relevant to the rejections under review and are supported by at least a preponderance of the

evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

Koford Reference

1. Koford describes an apparatus and method for encrypting and adding error control information to data transmitted in an asynchronous communication system. (Col. 2, ll. 54-56.) Koford discloses a data controller including a processor for performing the method for encrypting and adding error control information. (Col. 8, ll. 3-8; col. 9, ll. 1-10; Fig. 3, element 54 (CPU).)

2. Koford describes exclusive OR (XOR) encryption of a secret key or enciphering characters (an encryption mask) and blocks of data. The XOR function encrypts data on a bit by bit (bitwise) basis through a gate arrangement. (Col. 8, ll. 55-67; col. 10, ll. 15-30.)

3. Koford describes adding error correction code (ECC) information to blocks of data to produce ECC-encoded blocks of data. (Col. 4, ll. 35-40; col. 5, ll. 43-55; col. 6, ll. 40-46; Fig. 2, element 32.)

PRINCIPLES OF LAW

Burden on Appeal

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the

prima facie case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

Anticipation

Anticipation is a question of fact. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Under 35 U.S.C. § 102, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987); *see Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citation omitted).

ANALYSIS

Initially, we note the following claim groupings and waiver issues. Appellant briefly contends that the Examiner failed to establish a proper *prima facie* case of obviousness for claims 26 and 27, restating the argument made with respect to claim 28 and the Koford reference – that the references “do not teach or suggest a bitwise XOR of an encryption mask and a block of ECC-encoded data,” (the argument made with respect to the Koford reference and claim 28) and thus, “do not produce a system having all of the limitations of claim 26 or a drive having all of the limitations of claim 27.” (App. Br. 7.) However, this statement is insufficient to rise to the level of a separate argument requiring our consideration. *See Hyatt v. Dudas*, 551 F.3d 1307, 1313-14 (Fed. Cir. 2008) (“When the appellant fails to contest a ground of rejection to the Board, section 1.192(c)(7) [(now section

41.37(c)(1)(vii))] imposes no burden on the Board to consider the merits of that ground of rejection . . . the Board may treat any argument with respect to that ground of rejection as waived.” *Id.* at 1314); *see also In re Guess*, 2009 WL 1598475 at *1 (Fed. Cir. 2009) (citing *In re Watts*, 354 F.3d 1362, 1367 (Fed. Cir. 2004)) (“Appellants failed to argue that any limitations unique to [the claims] survive [the rejection]. Appellants have therefore waived any such arguments on appeal.”).

We find that Appellant argues the merits of only independent claim 28. We will, therefore, treat claims 26-28 as standing or falling together. We accept Appellant’s grouping of the claims. *See* 37 C.F.R. § 41.37(c)(1)(vii) (“Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.”). Accordingly, we address only those arguments that Appellant presents in the Briefs. Arguments that Appellant could have made but chose not to make in the Briefs are waived.

Rejection of the Claims under 35 U.S.C. § 102(b)

We decide the question of whether Appellant establishes the Examiner erred in determining Koford discloses each feature of Appellant’s invention, in particular, a bitwise XOR of an encryption mask and a block of ECC-encoded data. We will affirm the Examiner’s rejection of claims 26, 27, and 28 for the reasons set out above, as well as the reasons that follow.

We initially note disagreement between the Examiner and the Appellant concerning the definition of “ECC-encoded data.” (App. Br. 6; Ans. 6-7.) We determine the scope of the claims in patent applications not solely based on the claim language, but upon giving claims “their broadest reasonable interpretation consistent with the specification” and “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (citations omitted). Accordingly, giving the term “ECC-encoded data” its broadest reasonable interpretation, we find ECC-encoded data would be commonly understood to mean data containing ECC information.

We find unpersuasive Appellant’s contention that Koford does not disclose XOR encryption of an encryption mask and a block of ECC-encoded data. Koford describes an apparatus (data controller) for encrypting and adding error control information a including a processor. The processor performs XOR encryption of a secret key or enciphering characters (an encryption mask) and blocks of data. The processor also adds error correction code (ECC) information to blocks of data to produce ECC-encoded blocks of data. (FF 1, 2, 3.) Although Koford describes performing the XOR encryption on blocks of data prior to ECC encoding – rather than ECC-encoded data being XORED (col. 4, ll. 43-56; col. 10, ll. 15-59) – the description of data as “ECC-encoded” does not impact how the data is processed, i.e., the function or structure of the processor.

In this instance, merely reciting that data corresponds to a particular type of data – “ECC-encoded” data (as opposed to some other unique identifier) – essentially constitutes non-functional descriptive material as it

does not further limit the claimed invention either functionally or structurally. Such non-functional descriptive material does not patentably distinguish claims over the prior art that otherwise renders the claims unpatentable. *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also Ex parte Nehls*, 88 USPQ2d 1883, 1887-89 (Bd. Pat. App. & Int. 2008) (precedential) (discussing cases pertaining to non-functional descriptive material).

We agree with the Examiner that Koford discloses XOR encryption of data, which is equivalent to the function of Appellant's claimed "bitwise XOR of an encryption mask and a block of ECC-encoded data." The Examiner explains at length how XOR encrypting standard ASCII characters is identical to XOR encrypting ASCII characters with additional characters added as error correction code (ECC) information. (Ans. 6-8.)

Appellant did not file a reply brief, nor did Appellant point out any alleged error in the Examiner's position. Accordingly, Appellant provides no persuasive evidence supporting the assertions, and has not met the burden to show reversible error in the Examiner's finding that Koford discloses a bitwise XOR of an encryption mask and a block of ECC-encoded data.

The Examiner properly explains where each feature of Appellant's claim 28 is shown in the Koford reference. Accordingly, we find Koford discloses each feature of Appellant's claim 28, anticipating the claim. For all the reasons noted above, we will sustain the Examiner's rejection of claim 28, as well as claims 26 and 27.

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CONCLUSION OF LAW

On the record before us, we find Appellant has not established that the Examiner erred in determining Koford discloses each feature of Appellant's invention, in particular, a bitwise XOR of an encryption mask and a block of ECC-encoded data.

DECISION

We affirm the Examiner's rejection of claim 28 under 35 U.S.C. § 102(b).

We affirm the Examiner's rejection of claims 26 and 27 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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